

ABSTRACT OF THE DISCLOSURE

The invention provides a hybrid electric vehicle employing a permanent magnet type dynamo-electric machine structured such that a torque at a time of reverse rotation is greater than a maximum torque output by a dynamo-electric machine when the dynamo-electric machine normally rotates. Further, the present invention provides a hybrid electric vehicle in which a dynamo-electric machine and an engine are connected to a drive shaft in series and no gear for switching between forward and backward movements is provided, wherein there is employed a permanent magnet type dynamo-electric machine structured such that a torque output by the dynamo-electric machine when the hybrid electric vehicle moves backward (the dynamo-electric machine reverse rotates) is greater than a maximum torque output by the dynamo-electric machine when the hybrid electric vehicle moves forward (the dynamo-electric machine normally rotates). In the hybrid electric vehicle employing the permanent magnet type dynamo-electric machine having a stator having a stator iron core around which a stator coil is wound, and a rotor arranged in the stator at a rotational gap and having a plurality of permanent magnets arranged and fixed within a rotor iron core in a peripheral direction, a ratio between a maximum torque output by the dynamo-electric machine when the dynamo-electric machine normally rotates and a torque output by the

dynamo-electric machine when reverse rotating establishes a relation $1 : 1.05-1.2$, whereby the torque at the reverse rotation becomes greater.